

United States Department of Agriculture
Agricultural Research Administration
Bureau of Entomology and Plant Quarantine

ETHYLENE DIBROMIDE-CHLORDANE DIP FOR TREATING PLANT BALLS
INFESTED WITH VARIOUS STAGES OF THE JAPANESE BEETLE

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The use of a dip containing ethylene dibromide and chlordane has recently (Sept. 21, 1948) been authorized for the treatment of balled or potted plants in connection with the Japanese beetle quarantine. The dip may be used at any time of the year, and thus provides a treatment that will kill any of the stages--eggs, larvae, pupae, or adults--in the soil about the roots of the plants. The use of dips previously authorized has been limited to the period during which only larvae are in the soil.

The composition of a stock solution that has been authorized for use in preparing the dip is as follows:

	<u>Percent (by weight)</u>	<u>Pound (approx.)</u>
Ethylene dibromide	13.0	1
Chlordane (technical)	6.5	1/2
Cellosolve ^{1/}	6.5	1/2
Tween 20 ^{2/}	6.5	1/2
Isopropyl alcohol (99%)	67.5	To make 1 gallon

The ingredients are mixed in the order given to form a clear dark-colored stock solution. Other solvents and surface-active agents may be substituted if their use is approved by the Department.

The dip is prepared by adding the stock solution to water at the rate of 3 ml. per gallon (1/2 fl. oz. per 5 gal.). An emulsion, which is easily dispersed with moderate stirring, is formed immediately. The ethylene dibromide is soon dissolved in the water, and the chlordane remains dispersed.

The effectiveness of this dip against all stages of the Japanese beetle in the soil is due to the fumigating action of the ethylene dibromide, which persists for as long as 3 weeks after dipping, and to the residual toxicity of the chlordane.

^{1/} Ethylene glycol monoethyl ether, used as a solvent.

^{2/} A polyoxyalkylene derivative of sorbitan monolaurate, a surface-active agent.



Caution

Keep the stock solution away from fire and open flames. Store it in tightly closed containers in a moderately cool place. Provide adequate ventilation, and avoid prolonged breathing of the vapors. If the solution is spilled on shoes or clothing, remove articles immediately and aerate them thoroughly; if spilled on the skin, wash at once thoroughly with soap and water.